

Exaton 18.8.Mn

Exaton 18.8.Mn is a filler material of AWS ER 307 type with increased manganese content, reducing the risk for fissuring/hot cracking that otherwise can be a problem in fully austenitic weld metals. It is similar to ER 307 type suitable for joining work-hardenable steels, armor plate, austenitic stainless manganese steels, free-machining steels (such as ASTM 303) and stainless Cr steels with max. 18% Cr. The grade is used, for example, in the automotive industry for joining dissimilar steels as well as tractor trailers and passenger rail cars. It is also suitable for overlay welding on carbon and low-alloy steels.

Specifications

Classifications	EN ISO 14343-A : G/W/P 18 8 Mn SFA/AWS A5.9 : ER307(mod) Werkstoffnummer : ~1.4370
Approvals	CE : EN 13479 DB : 43.118.11 UKCA : EN 13479 VdTÜV : 19482

Approvals are based on factory location. Please contact ESAB for more information.

Alloy Type	Austenitic (18 % Cr - 8 % Ni - 6 % Mn)
Shielding Gas	M12, M13 (EN ISO 14175)

Tensile Properties

Testing Condition	Yield Strength	Tensile Strength	Elongation
As Welded	400 MPa	610 MPa	41 %

Charpy Testing

Testing Condition	Testing Temp	Impact Value
As Welded	20 °C	110 J
As Welded	-60 °C	85 J

Typical Wire Composition %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
0.06	6.1	0.80	0.01	0.02	8.0	18.1	<0.3	<0.10	0.05

Typical Wire Composition %

Nb	Co
0.04	<0.5

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
0.060	5.80	0.80	0.006	0.02	8.0	17.9	0.15	0.11	0.04

Typical Weld Metal Analysis %

Nb	Co
0.01	0.05

Welding Parameters

Amps	Wire Diameter	Volts	Wire Feed Speed
40-120 A	0.8 mm	15-19 V	4.0-8.0 mm/min
60-220 A	1.0 mm	15-28 V	4.0-12.0 mm/min
150-260 A	1.2 mm	24-29 V	3.0-10.0 mm/min
230-350 A	1.6 mm	25-30 V	3.0-5.0 mm/min